



Aviation Investigation Final Report

Location:	MONTGOMERY, New York	Accident Number:	NYC99FA126
Date & Time:	May 30, 1999, 15:46 Local	Registration:	N401JD
Aircraft:	Beech D50C	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Radar data depicted an airplane flying a track similar to a right traffic pattern for the runway. While on a track consistent with a right base leg, the airplane entered a left turn. About the same time as the accident, witnesses reported seeing an airplane fly a right base leg for the runway. The airplane entered a steep left bank, followed by an abrupt descent angle, and collision with terrain. A review of recorded radio transmissions revealed the pilot of the accident airplane flew a right hand pattern for the runway. The pilot queried a pilot of another airplane of his intentions. At that time, the other airplane was ahead of the accident airplane, on a final approach leg. The accident airplane then entered the left turn. A radar study indicated that while in the left turn, the approximate airspeed of the accident airplane was approaching or below the stall speed for the make and model airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot-in-command's failure to maintain adequate airspeed while maneuvering in the traffic pattern, which resulted in an inadvertent stall/spin.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings

1. STALL/SPIN - INADVERTENT - PILOT IN COMMAND
2. (C) AIRSPEED - INADEQUATE - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

3. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On May 30, 1999, at 1546 Eastern Daylight Time, a Beech D50C (Twin Bonanza), N401JD, was substantially damaged while maneuvering in the vicinity of Orange County Airport (MGJ), Montgomery, New York. The certificated commercial pilot and passenger were fatally injured. Visual meteorological conditions prevailed, and no flight plan was filed for the personal flight that originated from the Wurtsboro-Sullivan County Airport (N82), Wurtsboro, New York.

Witnesses at N82 saw the airplane depart about 1515. According to Terminal Radar Approach Control (TRACON) data, a target, with a 1200 beacon code, departed N82 about 1515. The target proceeded in an easterly direction, approximately 30 miles, and then made a turn toward a westerly direction, approximately 10 miles southeast of Dutchess County Airport (POU), Poughkeepsie, New York. It then proceeded over POU at 1536, and continued west toward MGJ. At 1544, the target track was consistent with a right hand traffic pattern to Runway 21 at MGJ. While on a track consistent with a right base, at 1546, the target entered a left turn.

A witness stated that he observed an airplane travel over his property. It was "very low," and in a steep left bank, possibly 90 degrees or more. He then heard the sounds of engine revving. He could not determine if the sounds were a result of one, or both of the engines. The airplane then "nosed in." The witness further stated that he observed a white cloud rise from the accident site, and a strong odor of fuel was present in the vicinity of the wreckage.

Another witness, that was in his airplane on the ground at MGJ, stated:

"...I was # 1 for departure runway 21 at Orange County Airport, I observed 4 aircraft in the traffic pattern, 2 on downwind, and 2 on final. A piper seneca was short final with a C172 on approx. 1.5 mi final, my plan was to depart following the C172s landing. As I continued to scan the traffic pattern I spotted an aircraft which appeared to be on an easterly heading consistent with a right base left for runway 21. It was approx. 2mi north of the airport and appeared to be very low (just above tree line), as I watched the aircraft the right wing and nose dropped abruptly with the aircraft descending below the tree line. At first I tuned my radio to 121.5 and heard no ELT signal, I rationalized that perhaps someone was buzzing a house or something. I decided to takeoff and fly in that direction and have a look, I spotted smoke in the approx. vicinity and flew towards it, I determined it was someone burning brush. After about 5-10 minutes in the area I continued on my flight to Kobelt airport..."

Review of a tape cassette recording of radio transmissions on the MGJ common traffic advisory frequency revealed several transmissions from "Twin Bonanza" and "Skyhawk six five seven four two". The transmissions were:

"Orange County Twin Bonanza entering ah downwind on a forty five for a right base two one."

"Bonanza downwind for two right two one."

"Orange County Traffic Skyhawk six five seven four two turning base two one Orange County behind a twin Cessna. We're ah touch n go."

"Orange County traffic Skyhawk six five seven four two turning final 'bout two miles out on final two one Orange County touch n go."

"Orange County Twin Bonanza's turning ah right base ah for two one."

"Turning base for two one, you got the Cessna in sight?"

"You said you're on final"

"ok"

"Cessna on final at Orange County ah you ah full stop or touch n go?"

"touch n go."

"Okay ah thank you."

There were no more radio transmissions from "Twin Bonanza". The daughter of the pilot (N401JD) listened to the cassette tape and stated that her father made the "Twin Bonanza" radio transmissions. The pilot of N65742 listened to the cassette tape. He stated that he remembered talking to the Twin Bonanza, but never saw it. He was making sure that the Twin Bonanza had him in sight.

The accident occurred during the hours of daylight approximately 41 degrees, 34 minutes north latitude, and 74 degrees, 15 minutes west longitude.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with ratings for single engine land, multi engine land, and instrument airplane.

His most recent Federal Aviation Administration (FAA) third class medical certificate was issued on March 24, 1998; with a limitation "Holder shall wear lenses that correct for distant vision and posses glasses that correct for near vision while exercising the privileges of his/her airman certificate." At that time, the pilot reported a total flight experience of 1,550 hours.

After a runway excursion, the pilot successfully completed a FAA reexamination on April 20, 1998.

The pilot's logbook was never recovered. His fiancée stated that she was never aware of a formal logbook. However, the pilot logged trips and flight experience in a small memo book. The memo book was not recovered.

AIRCRAFT INFORMATION

A review of the airplane's logbooks revealed that the airplane underwent an annual inspection on August 7, 1998. At that time; 4,778.9 hours was recorded as Hobbs time, 1,836.3 hours was recorded as total time for the right engine, and 1,325.9 hours was recorded as total time for the left engine. Additionally, both engines underwent a 50 hour inspection on April 25, 1999.

WRECKAGE AND IMPACT INFORMATION

The wreckage was examined at the accident site on May 31 and June 1, 1999, and all major components of the airplane were accounted for at the scene. The wreckage was intact, oriented to a 315 degree heading, on top of shrubbery and a berm. The field elevation at the accident site was approximately 480 feet above sea level. There was no observed scars or damage to the trees located at the front and rear of the wreckage. Some of the shrubbery and grass in the vicinity of the wreckage was faded in color.

The right wing sustained impact damage to the leading edge at the wing root. However, there was minor impact damage to the remainder of the leading edge. There was significant impact damage to the underside of the right wing. The aileron was found in the approximate neutral position, and exhibited buckling. The outboard flap was observed in the retracted position, and the inboard flap appeared partially extended. However, the inboard flap was separated from the actuator arm. Photographs from a local police officer confirm that the inboard flap was retracted prior to disturbance by emergency personnel. Flight control continuity was established from the wing tip to the wing root.

The empennage was displaced upward, approximately 75 degrees, and slightly cantered to the left. Flight control continuity was established from the elevator and rudder to the forward section of the empennage. Additionally, rudder and elevator trim continuity was established.

The left wing sustained minor impact damage to the leading edge. There was significant impact damage to the underside of the wing. A ground scar similar in shape to a wing, was observed in the vicinity of the left wing. The aileron exhibited slight buckling. The outboard flap was retracted. The inboard flap appeared partially extended, but it had separated from the actuator arm. The aileron trim was displaced upward, and the actuator arm was broken. Flight control continuity was established from the wing tip to the wing fitting.

The landing gear was extended. All four fuel tanks were ruptured. In the left fuel system, fuel

was found in the strainer, pump, and selector valve. The left fuel selector handle was found between the "OFF" and "CROSSFEED" position, and the valve was found in the "OFF" position. In the right fuel system, fuel was found in the pump. The right fuel selector handle was found between the "MAIN" and "AUX" position, and the valve was found in the "AUX" position. Blades from both propellers exhibited chordwise scratching and "S" bending. A blade from the right propeller sustained gouges at the leading edge.

The crankshafts were rotated on both engines. Valve train continuity was confirmed, and thumb compression was attained on all cylinders. All spark plugs were removed and inspected, and appeared light to dark brown in color. When manually rotated, all four magnetos produced a spark at the six distributors. When the valve covers were removed, oil was present.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot, on May 31, 1999, by the Orange County Medical Examiners Office.

Toxicological testing was conducted at the FAA Toxicology Accident Research Laboratory, Oklahoma City, Oklahoma.

TESTS AND RESEARCH

The radar data was examined by an Aerospace Engineer at the Safety Board's Office of Research and Engineering. According to the Recorded Radar & Aircraft Performance Study:

"...As the aircraft entered the left turn near the end of the recorded data, the calculated VCAS decreased through 80 knots. At this point the aircraft was significantly banked at an angle between 30 and 40 degrees. Data from Raytheon (Beechcraft), shows the stall speed for the aircraft at 40 degrees of bank and flaps retracted to be 83 knots. The stall speed for 20 degrees of bank and zero flap deflection is 74.7...In summary, the radar data and subsequent calculations show that the accident aircraft was maneuvering near MGJ. During these maneuvers the airspeed of the aircraft steadily decreased to a point approaching the flaps up stall speed for the aircraft. The data show that the aircraft then turned sharply and lost 500 feet of altitude in 4.5 seconds. N65742 was approximately 1 1/2 minutes ahead of N401JD in the approach pattern and did not approach the latter aircraft closer than 1NM during its landing sequence."

ADDITIONAL INFORMATION

Federal Aviation Regulation 91.113 (g) stated: "Landing. Aircraft, while on final approach to land or while landing, have the right-of-way over other aircraft in flight or operating on the surface,..."

The wreckage was released to the Orange County Airport Manager on June 2, 1999.

Pilot Information

Certificate:	Commercial	Age:	70, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 3 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	March 24, 1998
Occupational Pilot:	No	Last Flight Review or Equivalent:	
Flight Time:	1550 hours (Total, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N401JD
Model/Series:	D50C D50C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	DH-272
Landing Gear Type:	Retractable - Tricycle	Seats:	6
Date/Type of Last Inspection:	August 7, 1998 Annual	Certified Max Gross Wt.:	6300 lbs
Time Since Last Inspection:	51 Hrs	Engines:	2 Reciprocating
Airframe Total Time:	4809 Hrs	Engine Manufacturer:	Lycoming
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	GO-480-G2D6
Registered Owner:	JOHN F DONATO	Rated Power:	295 Horsepower
Operator:		Operating Certificate(s) Held:	None
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Day
Observation Facility, Elevation:	SWF ,491 ft msl	Distance from Accident Site:	8 Nautical Miles
Observation Time:	15:45 Local	Direction from Accident Site:	110°
Lowest Cloud Condition:	Clear	Visibility	20 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	5 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	0°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	31°C / 6°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	WURTSBORO , NY (N82)	Type of Flight Plan Filed:	None
Destination:	MONTGOMERY , NY (MGJ)	Type of Clearance:	None
Departure Time:	15:15 Local	Type of Airspace:	Class G

Airport Information

Airport:	ORANGE COUNTY AIRPORT MGJ	Runway Surface Type:	Asphalt
Airport Elevation:	365 ft msl	Runway Surface Condition:	Dry
Runway Used:	21	IFR Approach:	None
Runway Length/Width:	5006 ft / 100 ft	VFR Approach/Landing:	Traffic pattern

Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:	1 Fatal	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	41.519657,-74.229576(est)

Administrative Information

Investigator In Charge (IIC):	Gretz, Robert
Additional Participating Persons:	JEFF SHAPIRO; TETERBORO , NJ STUART BOTHWELL; WICHITA , KS EDWARD ROGALSKI; BELLVIEW , FL
Original Publish Date:	July 12, 2000
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=46467

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